Fenner, P., W.W. Brady, and D.R. Patton. 1985. Effects of regulated water flows on regeneration of Fremont Cottonwood. J. of Range Manage. 38(2):135-138.

LOCATION: AZ

KEYWORDS: COTTONWOOD FREMONT, REGULATED WATER FLOWS, COTTONWOOD REGENERATION

ABSTRACT

The reduction in extent of riparian forests in the southwestern United States has been a topic of recent concern. The effect of dams on downstream river flow and the consequent modification of the riparian habitat was studied along the lower Salt River in central Arizona. Dams were found to change the magnitude of river flows and change the seasonal timing of flows in such a way that the habitat appeared less adapted for regeneration of Populus fremontii. Modification of river flow pattern, therefore, appears likely to have been a significant factor causing change in vegetation along Salt River.

Field, D.R., M.E. Lee, and K. Martinson. 1985. Human behavior and recreation habitats: Conceptual issues. Pages 227-231 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: RECREATION

ABSTRACT

Individual recreation behavior and recreation experiences are more often than not determined by three sets of factors: the social group within which an individual participates, including the mix of social groups occupying a specific recreation place; the biological or physical characteristics of that place; and the management prescriptions applied there. Few studies have examined recreation behavior in the context of these three sets of factors. The present paper provides a conceptual framework to do so. The focus is upon human behavior and recreation habitats. Human ecological principles, along with concepts used to classify recreation "habitats" according to the recreation opportunities they provide, form the conceptual framework for the presentation.

Finch, D.M. 1985. A weighted-means ordination of riparian birds in Southeastern Wyoming. Pages 495-498 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: WY

KEYWORDS: RIPARIAN BIRDS, BIRD DISTRIBUTION

ABSTRACT

Variation among habitat associations of 31 riparian bird species in southeastern Wyoming was analyzed using a weighted-means ordination. Three principal components explained 86.7% of the variation among habitat associations of bird species. The components showed high positive loadings for variables associated with canopy, shrub size, and vegetation height.

Garcia, J.C. 1985. A method for assessing the value of stream corridors to fish and wildlife resources. Pages 335-338 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: STREAM CORRIDOR EVALUATION

ABSTRACT

SCIES provides a method for fish and wildlife managers to measure the habitat value of stream corridors, quantifying in explicit terms many complex values and factors. It was developed to have broad applications, to be flexible, to be capable of incorporating existing methods and knowledge, and to be comprehensive, easy to use, and verifiable.

Gibbons, D.R., and E.O. Salo. 1973. An annotated bibliography of the effects of logging on fish of the Western United States and Canada. US For. Serv. Gen. Tech. Rep. PNW-10, Pacific Northwest Forest and Range Experiment Station, Portland, OR. 145pp.

LOCATION: WESTERN U.S.

KEYWORDS: STREAMSIDE VEGETATION, STREAM PROTECTION, STREAM IMPROVEMENT, LOGGING IMPACTS, MULTIPLE USE

ABSTRACT

This bibliography is an annotation of the scientific and nonscientific literature published on the effects of logging on fish and aquatic habitat of the Western United States and Canada. It includes 278 annotations and 317 total references. Subject areas include erosion and sedimentation, water quality, related influences upon salmonids, multiple logging effects, alteration of streamflow, stream protection, multiple-use management, streamside vegetation, stream improvement, and descriptions of studies on effects of logging. A review of the literature, a narrative on the state of the art, and a list of research needs determined by questionnaires are included.

Gibbons, D.R. 1985. The fish habitat management unit concept for streams on National Forests in Alaska. Pages 320-323 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AK

KEYWORDS: FISH HABITAT MANAGEMENT UNIT, FOREST

ABSTRACT

The occurrence of alternatives invariably exists between the management of timber and fisheries resources. The concept of Fish Habitat Management Units (FHMU's) has been developed on National Forest Lands in Alaska to describe the specific streamside management requirements needed for the maintenance and improvement of aquatic resources. This paper discusses the development and management applications of FHMU's.

Gillen, R.L., W.C. Krueger, and R.F. Miller. 1985. Cattle use of riparian meadows in the Blue Mountains of northeastern Oregon. J. of Range Manage. 38(3):205-209.

LOCATION: OR

KEYWORDS: RIPARIAN MEADOWS, GRAZING IMPACT, SEASON OF USE, GRAZING

AUTHOR/ABBREVIATED ABSTRACT

The intensity and pattern of cattle use of small riparian meadows were studied by periodically sampling vegetative standing crop and by continuously monitoring meadows with time-lapse photography. Temperature and relative humidity were also measured in riparian and upland plant communities. Herbage standing crop at the end of the grazing season was similar under continuous grazing and the early and late grazing periods of a two pasture deferred rotation grazing system. Early grazing tended to decrease the total cattle occupation and the frequency of cattle occupation of riparian meadows when compared to continuous grazing.

Groeneveld, D.P., and T.E. Griepentrog. 1985. Interdependence of groundwater, riparian vegetation and streambank stability: A case study. Pages 44-48 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: GROUNDWATER, VEGETATION, STREAMBANK STABILITY

ABSTRACT

Groundwater is closely coupled with streamflow to maintain water supply to riparian vegetation, particularly where precipitation is seasonal. A case study is presented where Mediterranean climate and groundwater extraction are linked with the decline of riparian vegetation and subsequent severe bank erosion on the Carmel River in Carmel Valley, California.

Groeneveld, D.P., D.L. Grate, P.J. Hubbard, D.S. Munk, P.J. Novak, B. Tillemans, D.C. Watten, and I. Yamashita. 1985. A field assessment of above- and below-ground factors affecting phreatophyte transpiration in the Owens Valley, California. Pages 166-170 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: TRANSPIRATION, PHREATOPHYTES, GROUNDWATER, CANOPY FACTORS, ROOT DENSITY

ABSTRACT

Factors influencing the water balance physiology and transpiration of five Great Basin shrub and grass phreatophytes are being investigated in shallow groundwater zones of the arid Owens Valley, California. Measurements of transpiration, atmospheric potential, canopy factors, root density, soil moisture and xylem potential are presented and discussed.

Hair, J.D., G.T. Hepp, L.M. Luckett, K.P. Reese, and D.K. Woodward. 1978. Beaver pond ecosystems and their relationships to multi-use natural resource management. Pages 80-92 in Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems. Johnson, R.R. and J.R. McCormick, tech. coords. Proc. symp. Callaway Gardens, GA. US Dep. Agric., For. Serv. Gen. Tech. Rep. WO-12.

LOCATION: NC

KEYWORDS: BEAVER POND ECOSYSTEMS, MULTIPLE-USE, WETLAND HABITATS

ABSTRACT

Thousands of hectares of land have been impounded by beavers in the southeastern United States. Significant economic losses to agribusiness and forest production have been reported. However, beaver impoundments are valuable components of many regional riparian ecosystems and provide numerous opportunities for multi-use management programs. As a renewable fur resource, beaver populations should be regulated through an annual sustained harvest. Beaver impoundments are important wetland habitats and have higher avian diversity values than adjacent upland areas. They can be effectively managed for waterfowl hunting and with increased importance of non-consumptive utilization of wildlife resources, they provide numerous opportunities for development of natural resource education programs.

Harris, R.R., R.J. Risser, and C.A. Fox. 1985. A method for evaluating streamflow discharge--Plant species occurrence patterns on headwater streams. Pages 87-90 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: HYDROELECTRIC PROJECTS, INSTREAM FLOW, STREAM DISCHARGE

ABSTRACT

On headwater streams proposed or developed for hydroelectric projects, hydrologic simulation modeling (Instream Flow Incremental Method) can be used in conjunction with vegetation sampling to assist in the evaluation of instream flow requirements for riparian plant species. Field studies on the western and eastern slopes of the Sierra Nevada have been undertaken to test the method and have shown promising results.

Harvey, D.M., C.C. Watson, and S.A. Schumm. 1985. Gully erosion. US Dep. Inter., Bur. Land Manage., Denver Service Center, Division of Resource Systems, Tech. Note 366, Denver, CO 80225.

LOCATION: WESTERN U.S.

KEYWORDS: GULLY EROSION

ABSTRACT

Many land uses, including livestock grazing and surface mining, may influence gully erosion processes. Land managers often require information on the stages of gully evolution, current stability of gully systems, and estimates of long-term gully erosion rates and sediment yields. While there are very few standardized methods for evaluating gully systems, a great deal of information on gully erosion processes has been generated. The purpose of this report is to make information on gully erosion available to resource specialists and provide a conceptual framework to help evaluate gully systems and gully erosion processes.

Heede, B.H. 1985. Interactions between streamside vegetation and stream dynamics. Pages 54-58 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: OR

KEYWORDS: HYDROLOGY, CHANNEL STABILITY, BEDLOAD, WATER QUALITY, LOGS IN STREAMS

ABSTRACT

Interrelationships between vegetation and hydrologic processes in riparian ecosystems must be considered by managers before they attempt to alter these natural systems. A 5-year experiment demonstrated that logs that fall across the channel from streamside forests dissipate flow energy, maintain channel stability, decrease bedload movement, and increase water quality.

Hoover, S.L., D.A. King, and W.J. Matter. 1985. A wilderness riparian environment: Visitor satisfaction, perceptions, reality, and management. Pages 223-226 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ

KEYWORDS: WILDERNESS, RECREATION, VISITOR SATISFACTION

ABSTRACT

Visitors to the area were generally satisfied with their visits, but cited features associated with cattle, fishing and contact with other people as detractants. Their perceptions of the relative abundance of selected environmental conditions closely matched real-world measures. Attributes given the highest desirability ratings by the users were largely features likely to be prevalent in healthy riparian systems. Thus, management which maintains or enhances the ecological integrity of riparian areas may also contribute to their potential recreational values.

Horton, J.S., and C.J. Campbell. 1974. Management of phreatophyte and riparian vegetation for maximum multiple use values. US Dep. Agric. For. Serv. Res. Paper RM-117, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 23pp.

LOCATION: WESTERN U.S.

KEYWORDS: PHREATOPHYTES, VEGETATION, WATER YIELD IMPROVEMENT

ABSTRACT

Summarizes the status of our knowledge about environmental relations of vegetation along water courses in the southwestern United States, and impacts of vegetation management to reduce evapotranspiration on other resource values. Reviews the literature on measurement and evaluation of water losses from moist-site vegetation, ecological relationships, other resource uses of phreatophyte and riparian areas, and control methods. Suggests approaches to management of moist-site areas by zones based primarily on water table depth, elevation and tree species.

Hubert, W.A., R.P. Lanka, T.A. Wesche, and F. Stabler. 1985. Grazing management influences on two brook trout streams in Wyoming. Pages 290-294 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: WY

KEYWORDS: TROUT STREAM, GRAZING IMPACT

ABSTRACT

Brook trout abundance and instream habitat characteristics were evaluated in two rangeland streams. Heavily grazed and lightly grazed reaches of two streams with different grazing management were compared. Relationships between stream morphology, riparian zone characteristics, and trout abundance were observed.

Hunter, W.C., B.W. Anderson, and R.D. Ohmart. 1985. Summer avian community composition of tamarix habitats in three southwestern desert riparian systems. Pages 128-134 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ, NV

KEYWORDS: TAMARIX, SALT CEDAR, AVIAN COMMUNITY, SOUTHWESTERN DESERT

ABSTRACT

Data from three southwestern river systems were used to assess avian response to salt cedar (Tamarix chinensis). Species were grouped by breeding biology and groups responded differently in their occurrence in salt cedar among the valleys. Biogeographical and climatic factors may explain these differences.

Jackson, W.L., and B.P. Van Haveren. 1985. Design for a stable channel in coarse alluvium for riparian zone restoration. Water Resour. Bull. 20(5):695-703.

LOCATION: CO

KEYWORDS: RESTORATION, HYDROLOGY, STREAM CHANNEL

AUTHOR/ABBREVIATED ABSTRACT

Geomorphic, hydraulic and hydrologic principles are applied in the design of a stable stream channel for a badly disturbed portion of Badger Creek, Colorado, and its associated riparian and meadow complexes. The objective is to shorten the period of time required for a channel in coarse alluvium to recover from an impacted morphologic state to a regime condition representative of current watershed conditions. Channel geometry measurements describe the stream channel and the normal bankfull stage in relatively stable reaches.

Jahn, L.R. 1978. Values of riparian habitats to natural ecosystems. Pages 157-160 in Strategies for Protection and Management of Floodplain Wetlands and Other Riparian Ecosystems. Johnson, R.R. and J.F. McCormick, tech. coords. Proc. symp. Callaway Gardens, GA. US Dep. Agric. For. Serv. Gen. Tech. Rep. WO-12. Washington DC. 410pp.

LOCATION: U.S.

KEYWORDS: NATURAL ECOSYSTEMS, VEGETATION, AQUATIC COMMUNITIES

ABSTRACT

Vegetation in riparian habitats stabilizes soils and supplies organic matter that sustains aquatic communities. Nutrient-rich silt deposited periodically is these habitats by floodwaters enriches soils that support bottomland hardwood forests, forage for wildlife and livestock, and outdoor recreation. Broader applications of management guidelines are required to adjust human-related activities in riparian zones.

Jakle, M.D., and T.A. Gatz. 1985. Herpetofaunal use of four habitats of the middle Gila River Drainage, Arizona. Pages 355-358 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ

KEYWORDS: HERPETOFAUNA, WILDLIFE

ABSTRACT

Data on reptiles and amphibians were gathered using pit-fall traps and by observation along the Gila River northeast of Florence, Pinal County, Arizona. Four habitat types were sampled: desert wash, desert upland, mature salt cedar, and mesquite bosque. A total of 104 individuals of 12 species were trapped and an additional seven species were observed. Based on trap data, species diversity was greatest in the desert wash, and lowest in the salt cedar habitat. Reptiles and amphibians showed little use of the salt cedar habitat which may reflect the lack of structural diversity in the herbaceous and shrub layers and reduced light penetration due to a dense canopy.

Johnson, R.R., and D.A. Jones, tech. coord. 1977. Importance, preservation, and management of riparian habitat: A symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-143, 217pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 80521

LOCATION: WESTERN U.S.

KEYWORDS: ENDANGERED SPECIES HABITAT, AQUATIC ECOSYSTEMS

ABSTRACT

Twelve presented and 15 contributed papers highlighting what is known about this unique, diminishing vegetative type: characteristics, classification systems, associated fauna, use conflicts, management alternatives, and research needs. Speakers stressed the continuity and interrelationships of riparian ecosystems, their wildlife and vegetation, historic and current uses.

Johnson, R.R., and J.F. McCormick, tech. coord. 1978. Strategies for protection and management of floodplain wetlands and other riparian ecosystems. Proc. Symp. Callaway Gardens, GA. U.S. Dep. Agric. For. Serv. Gen. Tech. Rep. WO-12, Washington DC. 410pp.

LOCATION: U.S.

KEYWORDS: FLOODPLAIN, WETLANDS

ABSTRACT

The proceedings consists of 55 invited, contributed and poster-session papers presented in three basic sessions: characteristics, values, and management of floodplain wetlands and other riparian ecosystems. The management session includes position papers by the Environmental Protection Agency, Forest Service, Fish and Wildlife Service, Soil Conservation Service and Bureau of Land Management.

Johnson, R.R., and L.T. Haight. 1985. Avian use of xeroriparian ecosystems in the North American warm deserts. Pages 156-160 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ

KEYWORDS: XERORIPARIAN, RIPARIAN BIRDS, WARM DESERTS

ABSTRACT

Results of xeroriparian avian censuses are compared with paired desert upland censuses for various sub-divisions of the Sonoran Desert. With few exceptions xeroriparian habitat supports 5 to 10 times the population densities and species diversity of surrounding desert uplands.

Johnson, R.R., and C.H. Lowe. 1985. On the development of riparian ecology. Pages 112-116 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: U.S.

KEYWORDS: RIPARIAN ECOLOGY

ABSTRACT

The peculiarly western development of riparian ecology in North America is examined. Gradients in riparian systems are discussed with regard to transriparian and intrariparian continua, including xeroriparian communities. Consistent with the fact that riparian lands are technically wetlands, Aquatic, Riparian, and Terrestrial systems harbor peculiarly obligate species structured into distinctive biotic communities throughout all of North America.

Johnson, R.R., C.D. Ziebell, D.R. Patton, P.F. Ffolliott, and R.H. Hamre. tech. coords. 1985. In Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: U.S., WORLD WIDE

KEYWORDS: RECREATION, AGRICULTURE, WILDLIFE LIVESTOCK USE

ABSTRACT

These proceedings include 105 papers and 12 poster presentations. Topics include: physical characteristics, hydrology, and ecology of riparian ecosystems; riparian resources: recreation, agriculture, wildlife, livestock use, fisheries, and amphibians and reptiles; multiple-use planning and management; legal and institutional needs; riparian ecosystems in dryland zones of the world.

Johnson, S.R., H.L. Gary, and Stanley L. Ponce. 1978. Range cattle impacts on stream water quality in the Colorado Front Range. US Dep. Agric. For. Serv. Res. Note RM 359, Rocky Mountain Forest and Range Experiment Station. Fort Collins, CO. 8pp.

LOCATION: CO

KEYWORDS: GRAZING IMPACTS, WATER QUALITY, PATHOGENIC BACTERIA

ABSTRACT

Studies on two adjacent pastures along Trout Creek in Central Colorado indicated only minor effects of cattle grazing on water quality. Bacterial contamination of the water, however, significantly increased. Following removal of the cattle, bacterial counts dropped to levels similar to those in the ungrazed pasture.

Jones, K.B., and P.G. Glinski. 1985. Microhabitats of lizards in a southwestern riparian community. Pages 342-346 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ

KEYWORDS: LIZARDS, RIPARIAN COMMUNITY, MICROHABITATS

ABSTRACT

Relationships between lizard abundance and distribution, and certain selected microhabitats were determined for a southwestern riparian community. Distribution of lizards in riparian habitat appear to reflect availability of preferred habitats; certain lizards and microhabitats were widespread while others were limited to small portions of the study area. Patterns of lizard distribution in microhabitats are discussed.

Kauffman, J.B., W.C. Krueger, and M. Vavra. 1983. Impacts of cattle on streambanks in northeastern Oregon. J. of Range Manage. 36(6):683-685.

LOCATION: OR

KEYWORDS: GRAZING IMPACTS, STREAMBANKS

ABSTRACT

Impacts of a late season livestock grazing strategy on streambank erosion, morphology, and undercutting were studied for 2 years along Catherine Creek in northeastern Oregon. Streambank loss, disturbance, and undercutting were compared between grazing treatments, vegetation type, and stream-meander position. No significant differences were found among vegetation types or stream-meander location. Significantly greater streambank erosion and disturbance occurred in grazed areas than in exclosed areas during the 1978 and 1979 grazing periods. Over-winter erosion was not significantly different among treatments. However, erosion related to livestock grazing and trampling was enough to create significantly greater annual streambank losses when compared to ungrazed areas.

Kauffman, J.B., and W.C. Krueger. 1984. Livestock impacts on riparian ecosystems and streamside management implications...A review. J. of Range Manage. 37(5):430-437.

LOCATION: WESTERN U.S.

KEYWORDS: GRAZING IMPACTS, STREAMSIDE MANAGEMENT, WILDLIFE, RECREATION, FISHERIES

ABSTRACT

This paper reviews 100 papers dealing with the impacts of grazing upon riparian ecosystems. Conclusions are: public lands must be managed on a true multiple use basis that recognizes and evaluates the biological potential of each ecological zone in relation to the present and future needs of our society as a whole. Management strategies that recognize all resource values must be designated to maintain or restore the integrity of riparian communities.

Keller, C.R., and K.P. Burnham. 1982. Riparian fencing, grazing, and trout habitat preference on Summit Creek, Idaho. N. Am. J. of Fish. Manage. 2:53-59.

LOCATION: ID

KEYWORDS: RIPARIAN FENCING, GRAZING, TROUT HABITAT PREFERENCE

ABSTRACT

In 1975, 3.2 km of Summit Creek, Idaho were fenced by the Bureau of Land Management to exclude livestock from the riparian area. Six stream sections were electrofished in 1979 to determine differences in trout abundance, size, and growth between grazed and ungrazed stream sections. Electrofishing stations were paired by habitat type. There were more trout in ungrazed sections than in grazed sections in all three habitat types sampled. With one exception, there were more catchable-sized (200 mm long or longer) rainbow trout (Salmo gairdneri) an brook trout (Salvelinus foninalis) in the ungrazed area than in the grazed area. There was also evidence that the average size of the fish was less in grazed sections.

Kindschy, R.R. 1985. Response of red willow to beaver use in southeastern Oregon. J. Wildl. Manage. 49(1):26-28.

LOCATION: OR

KEYWORDS: RED WILLOW, BEAVER, GRAZING IMPACTS

ABSTRACT

Red willow (Salix lasiandra) is a common willow species that assumes tree form in the riparian communities of western North America. Utilization by herbivores has reduced or entirely eliminated willow and other riparian tree species, such as alder (Alnus tenuifolia), aspen (Populus tremuloides), and cottonwood (P. trichocarpa), from many otherwise suitable habitats in the western United States.

Knight, A.W., and R.L. Bottorff. 1984. The importance of riparian vegetation to stream ecosystems. Pages 160-167 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CA

KEYWORDS: RIPARIAN VEGETATION, STREAM ECOSYSTEMS, AQUATIC INVERTEBRATES

ABSTRACT

Riparian vegetation is very important in determining the structure and function of stream ecosystems. Most aquatic organisms, both invertebrates and fish, are directly or indirectly dependent on inputs of terrestrial detritus to the stream for their food. Natural changes in riparian vegetation and the biotic processing of detritus, as well as other factors, determine the kinds of abundance of aquatic invertebrates living in streams, from headwaters to large rivers. Removal of riparian vegetation will significantly affect stream organisms by: 1) decreasing detrital (food) inputs; 2) increasing the potential for primary production in aquatic plants; 3) increasing summer water temperatures; 4) changing water quality and quantity; and 5) decreasing terrestrial habitat for adult insects.

Knopf, F.L. 1985. Significance of riparian vegetation to breeding birds across an altitudinal cline. Pages 105-111 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: CO

KEYWORDS: RIPARIAN VEGETATION, BREEDING BIRDS, ALTITUDINAL CLINE

ABSTRACT

The relative significance of riparian zones to breeding birds was documented at 6 elevations between 1,200 and 2,750 m in the Platte River drainage of the Colorado Front Range. Bird communities were inventoried during 1,440 10-min surveys at points in riparian and upland vegetation on the 6 study areas during May and June 1981-1982. Totals of 124 and 111 species were observed on the 6 study areas during the 2 years; 82% of all species were observed in riparian sites than in uplands. Riparian bird communities were simplistically structured at high elevations and most complex at lower elevations; upland communities were more complex at higher elevations. Higher diversity analyses indicated that riparian sites at the lowest and highest elevations are most significant to a regional avifauna. Management actions to enhance avian communities in western states should place primary emphasis on riparian zones at low elevations, secondary emphasis on those at the highest elevations, and de-emphasize efforts at intermediate elevations.

Krausman, P.R., K.R. Rautenstrauch, and B.D. Leopold. 1985. Xeroriparian systems used by desert mule deer in Texas and Arizona. Pages 144-149 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ, TX

KEYWORDS: MULE DEER, XERORIPARIAN SYSTEMS

ABSTRACT

We examined desert mule deer (Odocoileus hemionus crooki) occurrance in xeroriparian systems in Arizona and Texas. Most deer in Arizona were located in washes. Most deer in Texas were located between washes. Xeroriparian areas are important habitat components for desert mule deer when they provide forage, thermal cover and travel lanes.

Krueger, H.O., and S.H. Anderson. 1985. The use of cattle as a management tool for wildlife in shrub-willow riparian systems. Pages 300-304. in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: WY

KEYWORDS: SHRUB-WILLOW RIPARIAN SYSTEMS, LIVESTOCK GRAZING

ABSTRACT

In high altitude shrub-willow riparian systems cattle can have a beneficial effect on wildlife by creating tunnels throughout the habitat. Mean tunnel heights for two study areas were 0.75 and 0.95 m with 41% of the shrubs sampled forming tunnels in each study area. These tunnels benefit birds and mammals by opening up willows which in turn increases the grassland habitat and structural diversity of vegetation.

Lea, G.D. 1979. BLM Management and policy for riparian/stream ecosystems. Pages 13-15 in Cope, O.B. ed. Grazing and Riparian/Stream Ecosystems: Proceedings of the Forum. Trout Unlimited Inc., Denver, CO. 94pp.

LOCATION: U.S.

KEYWORDS: RIPARIAN MANAGEMENT POLICY, INVENTORY OF PUBLIC LANDS

REVIEWER'S ABSTRACT

Federal management policies of the Bureau of Land Management for riparian vegetation are discussed. Mandates of the Federal Land Management Policy Act of 1976 effectively sets the scene for recognition and management of riparian values. Section 102(A) (2) establishes policy for the systematic inventory of public lands.

Lloyd, J. 1985. COWFISH: Habitat capability model. Wildlife and Fish Habitat Relationship Program, Northern Region, US Dep. Agric. For. Serv., P.O. Box 7669, Missoula, MT 59807. 32pp.

LOCATION: MT

KEYWORDS: GRAZING MANAGEMENT, FISHERIES, STREAM INVENTORY, RIPARIAN INVENTORY, MODELLING

ABSTRACT

The Habitat Capability Model is patterned after the U.S. Fish and Wildlife Service's Habitat Suitability Index. The HCM translates the HSI values into actual animal numbers or values. In the HCM the HSI value (0.0 - 1.0) is a secondary output. The model predicts the effects the past and present grazing system may have on the fisheries environment.

Lowe, C.H. 1985. Amphibians and reptiles in southwest riparian ecosystems. Pages 339-341 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: AZ

KEYWORDS: AMPHIBIANS, REPTILES, OBLIGATE RIPARIAN SPECIES

ABSTRACT

Obligate riparian amphibians and reptiles in Arizona and Sonora, Mexico are dicussed. Local population extinctions in Arizona are examined. Special status for obligate riparian species is proposed.

MacCracken, J.G., D.W. Uresk, and R.M. Hansen. 1985. Rodent-vegetation relationships in southeastern Montana. Northwest Science 59(4):272-278.

LOCATION: MT

KEYWORDS: RODENTS, GRASSLAND, RIPARIAN COMMUNITY, SAGEBRUSH COMMUNITY, RODENT ABUNDANCE

ABSTRACT

Plant communities of southeastern Montana were surveyed for rodents over a two-year period. Grassland, riparian, and sagebrush communities showed the greatest rodent abundance and species diversity. There was a significant positive relationship between rodent abundance and the cover provided by some understory plant species and tree density on the study area.

Mahoney, D.L., and D.C. Erman. 1984. The role of streamside bufferstrips in the ecology of aquatic biota. Pages 168-176 in California Riparian Systems: Ecology, Conservation, and Productive Management, Warner, Richard E. and K. Hendrix eds. 1035pp. University of California Press, Berkely, CA.

LOCATION: CA

KEYWORDS: BUFFERSTRIPS, RIPARIAN VEGETATION, STREAM ORGANISMS, LOGGING, STREAM SEDIMENT

ABSTRACT

Riparian vegetation is important as a source of food to stream organisms, as shade over small-order streams, and as a bank-stabilizing force to prevent excessive sedimentation and to intercept pollutants. Logging may significantly affect each of these factors unless proper protective measures are employed. Current research is underway on the recovery of small northern California streams after logging. Analysis of algal samples from 30 streams shows light intensity and chlorophyll concentrations are major factors related to logging intensity that affect instream primary production. Transportable sediment from 24 streambeds has shown that this measure of sediment is higher ($P = .001$) in logged and narrow buffered streams than in controls 7 to 10 years after logging.

Marlow, C.B., and T.M. Pogacnik. 1986. Time of grazing and cattle-induced damage to streambanks. Pages 279-284 in Riparian Ecosystems and Their Management: Reconciling Conflicting Uses. Proceedings of the Symposium. US Dep. Agric. For. Serv. Gen. Tech. Rep. RM-120, 523pp. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

LOCATION: MT

KEYWORDS: RIPARIAN COMMUNITIES, SOIL MOISTURE, RIPARIAN ZONE, GRAZING IMPACT, TRAMPLING

ABSTRACT

Cattle impact riparian communities through two processes: grazing and trampling. Re-evaluation of management practices indicates that implementation of rest rotation grazing management and limiting cattle use of riparian vegetation to 20% of the standing crop will reduce impact. Rest rotation and light grazing may improve plant vigor but little information is available on how well either practice controls bank damage from trampling. A three-year grazing study in southwestern Montana indicates that the level of cattle use in the riparian zone has little bearing on streambank damage (r^2=0.06). Soil moisture content directly affects (r^2=0.85) the streambanks susceptibility to trampling. Postponing or deferring grazing until streambanks have dried (10% soil moisture) will further protect the riparian zone from damage.